

S/N 09/848,430

Docket: ARC920000023US1

REMARKS

Entry of this Amendment is proper under 37 CFR §1.116, since no new claims or issues are presented and it is necessary for the Examiner to clarify her argument of record prior to proceeding to Appeal. It is noted that the only claim amendments merely combine claims previously of record, thereby precluding a conclusion that a new issue has been raised, and correct claim dependencies, which corrections reduce the number of issues for Appeal.

Claims 1, 3-18, and 20-25 are all the claims presently pending in the application. Claims 2 and 19 have been canceled to move contents therein into independent claim 1, in order to define one independent claim as having three listings over the entire document corpus. The other claim amendments merely reflect changes in dependency.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1, 3, 5, 7, 9, 11, 13, 15, and 17-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,895,470 to Pirolli, further in view of U.S. Patent Publication No. 2002/0165707 to Call.

Claims 2, 6, 10, 14, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pirolli/Call, and further in view of U.S. Patent No. 5,950,189 to Cohen et al. Claims 4, 8, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pirolli/Call/Cohen, and further in view of U.S. Patent No. 6,401,088 to Jagadish et al.

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

As described and claimed, for example, by claim 1, the present invention is directed to a method of converting a document corpus containing an ordered plurality of documents into a compact representation in memory of occurrence data.

A first vector is developed for the entire document corpus. The first vector comprises a listing of integers corresponding to terms in the documents such that each document in the

S/N 09/848,430

Docket: ARC920000023US1

document corpus is sequentially represented in the listing. A second vector is developed for the entire document corpus. The second vector indicates the location of each document's representation in the first vector. A third uninterrupted listing for the entire document corpus is also developed. The third uninterrupted listing contains a sequential listing of floating point multipliers, each floating point multiplier representing a document normalization factor for a corresponding document in the document corpus.

II. THE PRIOR ART REJECTIONS

The Examiner alleges that Pirolli, further in view of Call, renders obvious the present invention described by claims 1, 3, 5, 7, 9, 11, 13, 15, and 17-25, and, when further modified by Cohen, renders obvious the present invention defined by claims 2, 6, 10, 14, and 16. The Examiner further alleges that, when Pirolli, further in view of Call and Cohen, is then further modified by Jagadish, the present invention described by claims 4, 8, and 12 is also rendered obvious.

In preparation for Appeal and in response to the Examiner's Response to Arguments in paragraph 9 on page 9 of the Office Action, Applicants submit that the Examiner seems to have totally missed the point of the Applicants' arguments in the Amendment Under 37 CFR § 1.111, filed on April 21, 2005. These arguments are not repeated herein in but will be used in the Appeal Brief to provide an overall argument.

More significant at this point in prosecution, Applicants respond herein to the Examiner's response on page 9 of the Office Action. The Examiner merely recites lines from *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981):

"The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."

As best understood, the Examiner considers that *In re Keller* stands for a generic license that locating various somewhat related elements in the prior art is sufficient to satisfy the prior art evaluation for obviousness. Applicants submit that these lines recited above do

S/N 09/848,430

Docket: ARC920000023US1

not provide such broad license because the facts in that case differ from the present evaluation, as clearly demonstrated in the paragraph that follows the two above-recited lines. The Court in *In re Keller* distinguish the facts in that case from the facts of the present evaluation, by proceeding as follows:

“Both Keller and Derkovits disclose heart stimulators that use R-C type timing circuits. Walsh teaches the use of digital type timing circuits in place of R-C type timing circuits in conventional heart stimulators. Therefore, the question is whether it would have been obvious to one of ordinary skill in the art, working with the Keller and the Berkovits and the Walsh references before him, to do what the inventors herein have done, that is, to use a digital timing circuit in a cardiac pacer. We agree that the references establish a prima facie case of obviousness.” (Emphasis by Applicants)

It is noted that, in a paragraph previous to the above paragraph, the Court had found that Keller and Berkovits serve as the principal references and that Walsh served as a secondary reference that was relied upon to demonstrate the use of a digital timing in an analogous environment. That is, the Court found that Walsh demonstrated use of a digital timing circuit in a heart stimulator used in studies of the atrioventricular conduction system of a mammalian heart and was, therefore, analogous art.

Because the combination of the primary references and the secondary reference satisfied all elements of the claimed invention, the Court found that a prima facie rejection had been established and the burden shifted to the Appellant.

In contrast, in the present evaluation, as pointed out in the arguments beginning on page 9 of the Amendment Under 37 CFR § 1.111 filed on April 21, 2005, the combination of the primary reference Pirolli with the secondary reference Call would not satisfy the claim limitation that a single vector be developed for the entire document corpus, since Call teaches a vector for a single document, not a single vector that represents all of the documents composing a document corpus.

Thus, even if Pirolli were to be modified by Call, the resultant combination would still fail to satisfy the plain meaning of the claim limitation. For this reason, Applicants submit that the rejection currently of record for the present invention differs from that of *In re Keller* in that the prior art evaluation fails to satisfy the plain meaning of the claim language. That

S/N 09/848,430

Docket: ARC920000023US1

is, in distinction from *In re Keller*, evaluation of the present invention has not met the initial burden of a prima facie rejection.

Therefore, prior to proceeding to Appeal, Applicants respectfully request that the Examiner justify her position that modification of Pirolli by Call somehow satisfies the plain meaning of the claim language.

Hence, turning to the clear language of the claims, in Pirolli and/or Call there is no teaching or suggestion of: "... developing a first vector for said entire document corpus, said first vector being a listing of integers corresponding to terms in said documents such that each said document in said document corpus is sequentially represented in said listing", as required by the independent claims.

The remaining arguments in the Amendment Under 37 CFR §1.111 filed on April 21, 2005, remain valid and not repeated herein, for brevity, but will be presented in the Appeal Brief to bring them to the attention of the Board.

As discussed in the final paragraph on page 13 of the disclosure, the advantage of these features of the present invention is particularly significant for a document corpus, such as the typical helpdesk document corpus discussed as a non-limiting example in the specification, having a million or more documents, the dictionary contains less than 32,000 terms, and each document contains less than a thousand words and has only one occurrence or a small number of occurrences of dictionary terms.

Neither Pirolli nor Call recognizes this specific type of document corpus.

Therefore, Applicants submit that, absent improper hindsight, there would be no motivation to modify either Pirolli or Call to use a single listing of integers for the entire document corpus.

The advantage of the technique of the present invention is that the occurrence data of the document corpus is totally preserved while being represented in "small sparse matrix vector form". The present inventors are unaware of any technique that uses less memory and still preserves the information content. The vector records in Pirolli do not provide a single vector representation of the entire database and do not provide a small sparse matrix vector format. The prior art currently of record confirms the present inventors impression that no

S/N 09/848,430

Docket: ARC920000023US1

technique has yet been developed for a document corpus that uses less memory and still preserves the information content.

III. FORMAL MATTERS AND CONCLUSION

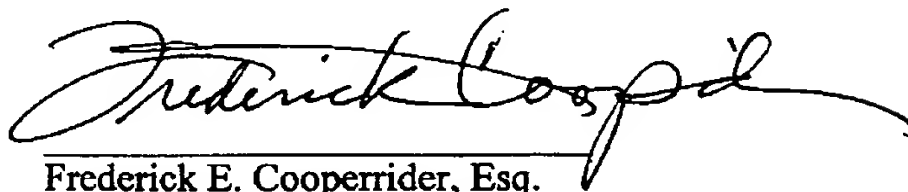
In view of the foregoing, Applicant submits that claims 1, 3-18, and 20-25, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 09-0441.

Respectfully Submitted,

Date:

8/29/05

Frederick E. Cooperrider, Esq.
Registration No. 36,769

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 48146

CERTIFICATION OF TRANSMISSION

I certify that I transmitted via facsimile to (571) 273-8300 this Amendment under 37 CFR §1.116 to Examiner L. Ries on August 29, 2005.



Frederick E. Cooperrider
Reg. No. 36,769